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# The Principle Of Patent As An Intangible Asset As Collateral Objects In Indonesia

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**Abstract**

*This study examines the legal status of patents as intangible assets with economic value and their potential as collateral in financial transactions. The issue arises from the classification of patents as intangible movable property under Indonesian law, which limits their treatment as collateral to fiduciary guarantees. This classification poses legal and practical challenges, especially as patents increasingly serve as valuable assets in the industrial and technological sectors. Using doctrinal legal research methods and a combination of statutory, conceptual, and comparative approaches, the study analyzes how different jurisdictions treat patents in the context of property rights and secured transactions. The findings indicate that in Indonesia, patents are currently recognized as collateral through fiduciary arrangements, leveraging their status as exclusive rights granted by the state. However, the research also identifies legal discourse and international practices that support the classification of patents as immovable property, which would enable their use in mortgage-based guarantees. The analysis reveals that, while patent valuation is critical to unlocking access to credit, it must be supported by legal certainty to protect creditors in cases of debtor default. Therefore, the study recommends regulatory reform that reclassifies patents as immovable property for collateral purposes and suggests the formulation of clearer legal norms to strengthen the enforceability of patent-based securities, thereby enhancing the role of intellectual property in economic development and financial inclusion.*



## A. INTRODUCTION

Intellectual property that is personal in nature consists of two categories: Copyright and industrial property rights. Industrial property rights include patents, trade secrets, trademarks, industrial designs, integrated circuit layout designs, and plant variety protection. Intellectual Property Rights (henceforth referred to as IPRs is a general term referring to the exclusive rights granted by the state as a result of human intellectual activity and/or as symbols used in business activities. These rights hold economic value, and according to Hegel's theory, an individual's property rights are subject to contractual agreements, where

contract law must involve the state. However, ownership or property also serves as an extension of an individual's personality (Mitchell, 1998).

Intellectual property rights are proprietary rights over human intellectual creations that hold economic value as intangible assets (Beydogan, 2020). Patents are regulated under Law Number 13 of 2016 concerning Patents, granting exclusive rights to inventors and/or rights holders, making patent ownership a form of property rights.

Initially, the protection of IPRs was at the national level. Then, countries agreed to regulate IPRs, especially copyright, through the Berne Convention 1886. Several international forums such as the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO) intensively carry out the formation of laws in the field of IPRs, so that currently, the provisions of national law in the field of IPRs must be adjusted to international law (Hapsari et al., 2021).

A patent is a property right, classified as an intangible movable asset, which, under the law, can be pledged as collateral through a fiduciary guarantee (SH, 2020). This regulation is parallel to the needs of industrial development, where patents serve as intangible assets.

As a comparison, Act No. 9 of December 15, 1967 on Patents (The Norwegian Patents Act), in Chapter 6, Section 44, regulates patents as movable assets that can be used as collateral, with their registration recorded at the patent office. This ensures that the registration data and the collateral data remain integrated. Similarly, the French Intellectual Property Code, amended on 2 August 2020, stipulates that mortgages and pledges on patents in France must also be registered in the same manner as patent applications, following the approach taken in Norway.

The IPRs system is based on the following principles (Diptarina, 2013):

1. The principle of natural justice – A creator of a work, which results from their intellectual ability, deserves to receive fair compensation. This compensation may be material or non-material. The law protects creators by granting them authority to act in their own interests, which is referred to as a right. This right obligates others either to perform (commission) or to refrain from performing (omission) certain actions;
2. The economic principle – Intellectual property rights constitute a form of wealth for their owners. Ownership of such rights allows individuals to gain financial benefits, for instance, through royalty payments and technical fees;

3. The cultural principle – Recognition of human creativity, works, and intellectual efforts, which are formalised within the IPRs system, serves as an essential mechanism to foster an environment that encourages innovation and the creation of new works;
4. The social principle – The granting of rights to individuals, partnerships, or entities is recognised and protected by law because such rights contribute to the fulfilment of broader societal interests. By conferring these rights upon individuals or legal entities, the law ultimately serves the welfare of society.

The IPRs system is classified as private rights, as stipulated in the Agreement on Trade-Related Aspects of Intellectual Property Rights (henceforth referred to as TRIPS Agreement), which states, “Recognizing that IPRs are private rights.”

Meanwhile, in his theory of property rights, John Locke argued that a person’s ownership of the things they produce exists from the moment of their birth. He asserted that intellectual property law grants individuals exclusive ownership over their creations. According to Locke, private ownership originates from human labour, and through this labour, individuals improve the world for a decent life, both for themselves and others. This assumption led Locke to the idea that individual labour is also an individual's property. While tangible objects are material goods, rights are intangible (immaterial) assets (Darusman, 2016).

The word “latent” comes from Latin and means “hidden.” Its opposite is “patent,” which means “open.” In the context of patents, the term “open” relates to an invention for which a patent is sought. All details concerning the invention must be disclosed in a patent specification document, which is submitted alongside the patent application. During the publication stage, information about the patented invention is made publicly available through the Official Patent Gazette and other designated channels provided by the Directorate General (Lindsey et al., 2006).

Referring to Law No. 13 of 2016 concerning Patents, Article 1, a patent is an exclusive right granted by the state to an inventor for their invention in the field of technology, allowing them, for a certain period, to exploit the invention themselves or to grant permission to others to do so. This means that a patent is classified as a proprietary right.

The term “Object”, as regulated in the Indonesian Civil Code, originates from the Dutch word *zaak*, which means “object” or "thing" in English. Article 499 of the Civil Code

defines an object as any item or right that can be owned. Subekti classifies objects into three categories (R Subekti, 2021):

1. Narrowly, objects refer to tangible goods that can be seen and touched;
2. Objects can also refer to a person's wealth, including rights and income;
3. Objects are legal entities that exist alongside legal subjects.

In the *Burgerlijk Wetboek* (BW), which applies in Indonesia, the term *zaak* (object) as a legal entity includes tangible and intangible objects (Tjoanda, 2020). Tangible objects are those that the senses can perceive, whereas intangible objects such as copyrights, intellectual works, receivables, and other rights over tangible goods cannot be physically touched (Tutik, 2008). The concept of an object as a legal entity means that it can serve as the subject of legal actions, such as being involved in disputes or lawsuits, receiving legal protection, or being used as collateral. Although the concept of objects as legal entities includes tangible and intangible objects, the Civil Code primarily regulates tangible objects (Masjchoen, 1981). Therefore, it is essential to classify patents as intangible movable objects that can serve as collateral, considering their nature as proprietary rights.

1. General review of property rights
    a. In his thoughts on property rights, John Locke stated that a person's ownership of what they create exists from birth. He also asserted that intellectual property law grants individuals exclusive rights over their intellectual creations. Locke further argued that private ownership originates from human labour, which improves the world for a decent life for oneself and others. He believed that a person's labour is also their property. While rights are intangible (immaterial) objects, goods are tangible (material) objects.
    b. The fundamental idea of IPRs is that intellectual property belongs to its creator due to their intellectual abilities. In his renowned theory *Immaterialguterrecht*, Josef Kohler explained that there is a special relationship between individuals and intangible objects (*immateriales Gut*). According to Kohler, IPRs are classified as proprietary rights, meaning they grant ownership over something that results from human cognitive and rational work or reasoning-based work. This work produces intangible objects because intellectuality is a product of the mind. An educated person, capable of using reason and thinking rationally through logic (a method of reasoning, a branch of philosophy), is considered a learned individual. Their thoughts

are described as rational or logical. People in this category are referred to as intellectuals.

c. Ownership of goods or property represents the highest and most absolute right in the theory of absolute property rights. According to this theory, the owner of goods or property has the right to control, use, and independently dispose of the property (Raz, 1988).

2. General review of objects

In civil law, the classification of objects is outlined in Articles 504 to 518 of the Indonesian Civil Code (KUH Perdata), which divides objects into movable and immovable categories. This classification is further elaborated by Subekti (R Subekti, 2021) in his book *Pokok-Pokok Hukum Perdata* (The Principles of Civil Law), explaining that an object may fall into either category based on three criteria: its nature, its intended use, or legal provisions**.**

Immovable objects by nature include land and everything permanently attached to it, whether directly or indirectly, by natural or human actions. For example, a plot of land, along with everything beneath it, permanently built structures (such as houses), and anything planted on it (such as trees), including fruits still attached to the trees, are considered immovable.

Immovable objects by intended use include things that, while not physically attached to the land or a building, are meant to remain with them for an extended period. For example, machines in a factory are intended to be used as part of the building's function, although not permanently affixed to the land.

Immovable objects by legal provisions are those explicitly classified as such by law, including rights or claims over an object. On the other hand, movable objects by nature are those not permanently attached to land or intended to remain with land or buildings, such as household furniture. Additionally, legal provisions classify some objects as movable, such as *vruchtgebruik* over movable objects, *lijfrenten*, shares in a trading company, government bonds, and other securities.

According to Frieda Husni Hasbullah, S.H., M.H., in her book *Hukum Kebendaan Perdata: Hak-Hak Yang Memberi Kenikmatan* (Civil Property Law: Rights that Provide Enjoyment) (pp. 43-44), immovable property can be classified into three categories (Hasbullah, 2002):

a. Immovable objects by nature (Article 506 of the Civil Code) – These include land and everything attached to or built on it, such as trees and plants whose roots are embedded in the soil, fruits on trees that have not been harvested, as well as mineral resources and other underground deposits.
b. Immovable objects by intended use (Article 507 of the Civil Code) – Examples include factories and their production equipment, mills, and similar facilities. Additionally, residential buildings and items affixed to walls or panels, such as mirrors, paintings, and ornaments, are classified under this category. Other examples include materials associated with land ownership, such as fertilisers, honey in trees, and fish in ponds. Furthermore, building materials salvaged from a demolished structure intended for reuse in reconstructing the same building also fall into this classification.
c. Immovable objects by legal provision (Article 508 of the Civil Code) – These include usufructuary rights over immovable property, servitudes, land tenure rights, and rights to cultivate, among others. Additionally, under Article 314 of the Commercial Code, ships with a gross weight of 20 cubic meters or more can be registered in a ship registry, categorising them as immovable objects.

According to Frieda Husni Hasbullah (Hasbullah, 2002), the distinction between movable and immovable objects is important in relation to four aspects: possession, transfer, expiration, and encumbrance. These four aspects are as follows:

a. Possession (*bezit*)

Possession of a movable object is considered a valid title under Article 1977 of the Civil Code. However, this does not apply to immovable objects, as a person in possession of an immovable object is not necessarily its legal owner.

b. Transfer (*levering*)

According to Article 612 of the Civil Code, the transfer of a movable object involves actual transfer (*feitelijke levering*). This physical transfer simultaneously serves as a legal transfer (*juridische levering*). In contrast, under Article 616 of the Civil Code, transferring an immovable object requires the official registration of the relevant deed, as stipulated in Article 620, which includes recording it in the official register.

With the enactment of Law No. 5 of 1960 concerning Basic Agrarian Principles (UUPA), the registration and transfer of land rights must follow the provisions of Article 19 of the UUPA and its implementing regulations.

c. Encumbrance (*bezwaring*)

The encumbrance of a movable object, regulated under Article 1150 of the Civil Code, must be done with a pledge. Meanwhile, the encumbrance of an immovable object, as stipulated in Article 1162 of the Civil Code, must be carried out through a mortgage.

Since the enactment of Law No. 4 of 1996 concerning Mortgage Rights Over Land and Objects Related to Land, land and objects associated with it can only be encumbered with Mortgage Rights. Meanwhile, movable objects can also be used as collateral through a fiduciary security arrangement according to Law No. 42 of 1999 concerning Fiduciary Security.

d. Expiration (*verjaring*)

For movable objects, expiration is not recognised. According to Article 1977(1) of the Civil Code, *bezit* of a movable object is equivalent to *eigendom*. Therefore, when a person takes possession of a movable object, they are immediately considered its owner.

For immovable objects, expiration applies. According to Article 610 of the Civil Code, ownership rights over an object can be acquired following expiration.

3. General review of patent

a. On 15 April 1994, the Indonesian government signed the final agreement containing the outcomes of the Uruguay Round of Multilateral Trade Negotiations and ratified the Agreement Establishing the World Trade Organization (WTO) through Law No. 7 of 1994 concerning the Ratification of the Agreement Establishing the World Trade Organization on 2 November 1994. This agreement includes an annex to the TRIPS Agreement.

b. The annex to the TRIPS Agreement establishes internationally accepted standards for IPRs. The TRIPS Agreement clarifies the role of intellectual property protection in trade-related matters.

c. The TRIPS Agreement aims to provide intellectual property protection and enforcement procedures that promote fair trade practices. Part II of the TRIPS Agreement broadly regulates IPRs in the following categories: 1. Copyright

and related rights; 2. Trademarks; 3. Geographical indications; 4. Industrial designs; 5. Patents; 6. Layout designs of integrated circuits; and 7. Protection of undisclosed information (trade secrets). The TRIPS Agreement also sets out prohibitions against unfair competition practices and licensing agreements.

d. Law No. 13 of 1997 concerning the Amendment to Law No. 6 of 1989 concerning Patents was enacted as a consequence of the ratification of Law No. 7 of 1994 on 2 November 1994 regarding the Agreement Establishing the World Trade Organization. Under this law, TRIPS mechanisms serve as the minimum standard for managing IPRs in all WTO member states, including Indonesia, while providing protection and dispute resolution mechanisms.

e. Law No. 14 of 2001 concerning Patents regulates various aspects, including the scope of patents, patent applications, publication and substantive examination, patent transfer and licensing, patent cancellation, government use of patents, simple patents, applications through the Patent Cooperation Treaty (PCT), patent administration, fees, dispute resolution, interim court rulings, investigations, criminal provisions, transitional provisions, and final provisions. One of the key changes introduced in this law is the provision that patents may be granted for inventions related to all living organisms, except for microorganisms, and essential biological processes for the production of plants or animals, except for non-biological or microbiological processes.

Although patents are recognized as intangible assets with significant economic value, the prevailing legal principle in Indonesia continues to classify them as movable property, thus limiting their function as collateral objects to fiduciary security. This restrictive approach hinders the optimal utilization of patents in securing financing and contributing to economic development. In contrast, several jurisdictions such as Norway and France have adopted more progressive legal principles by treating patents as immovable property that may be secured through mortgage instruments. This divergence raises an important legal inquiry regarding the adequacy of Indonesia's current legal framework in accommodating the evolving role of patents as financial instruments. Accordingly, this study aims to examine the foundational legal principles that govern the classification of patents as collateral, critically analyze the concept of property and objects in Indonesian civil law, and compare these with international practices. Employing normative and comparative legal approaches,

this research seeks to propose constructive recommendations for reforming Indonesia's legal framework to enable patents, as intangible proprietary rights, to be utilized more effectively as collateral objects in financial transactions.

## B. METHOD

This legal research identifies legal rules, legal principles, and legal doctrines to address legal issues (Marzuki, 2007). The legal materials used consist of primary legal sources, including the 1945 Constitution of the Republic of Indonesia, the Indonesian Civil Code, Law No. 13 of 2016 concerning Patents, and Law No. 42 of 1999 concerning Fiduciary Security. Additionally, secondary legal sources include the opinions of legal scholars on relevant concepts and related matters. Primary and secondary legal materials were obtained through research conducted at the postgraduate library of the Faculty of Law, Universitas Brawijaya, and the postgraduate library of Universitas Muhammadiyah Malang, as well as through the online library of the Faculty of Law, Universitas Brawijaya, which provides access to international journals. This research also employs statutory, conceptual, and comparative approaches.

## C. RESULTS AND DISCUSSIONS

### 1. Patents as Movable Objects

A patent is an exclusive right granted by the state to an inventor for their invention in technology, allowing them, for a certain period, to exploit the invention themselves or to grant permission to others to do so. The exclusive rights of a patent include the right to use the invention independently, the right to authorise others to use it, and the right to prohibit others from using it (Poticha & Duncan, 2019). All of these rights are classified as proprietary rights.

In the Civil Code, movable objects by nature are regulated under Article 509, where movable objects are classified based on their ability to be transferred or relocated. For instance, chairs, tables, and cars are considered movable because they can be physically moved. Similarly, goats, chickens, and cattle are also considered movable because they can move by themselves. Patents are divided into two aspects: the patent itself and the rights to the patent. A patent represents the technology resulting from an inventor's invention, which can take the form of either a movable or an immovable object. For example, a patent for a bottle cap is considered a movable object, while a patent for an automated house or an automated poultry farm falls under immovable objects.

In Indonesia's legal system, there is a recognised system of regulatory delegation, which refers to the process or mechanism of issuing delegated regulations according to the provisions of higher laws. This delegation ensures the effective implementation and enforcement of laws. There are three main types of control over delegated regulations: judicial control, legislative control, and public control (Fadli, 2001). In patent law, the regulation of fiduciary security is delegated to the Fiduciary Law.

Objects, particularly immovable objects, can also be classified based on their purpose or intended use. For example, permanently or long-term installed machinery in the ground is considered an immovable object due to its purpose. The same classification applies to certain patented technologies, where the nature of their function or use categorises them as immovable objects. For instance, a waste processing system patent involving multiple machines and underground tanks would be considered immovable due to its fixed installation in the ground.

A patent is an exclusive right or a form of limited monopoly. In the legal context, not all forms of monopoly are prohibited by law; only monopolies that negatively impact competition are restricted. In Law No. 5 of 1999, this is referred to as "monopolistic practices," which occur when a business engages in anti-competitive behaviour that affects the public interest (Widhiyanti & Hussien, 2014).

The regulation of patent property rights in Malaysia is governed by various laws and policies to protect the rights of inventors and patent holders. In Malaysia, patents grant exclusive rights to inventors to produce, use, and sell their inventions for a specified period, as stipulated in the Patent Act. According to Ardiada (Dwi Ardiada et al., 2022), a patent is defined as the exclusive right of an inventor to create or authorise the production of their work in art for a specific period. This indicates that the Malaysian patent system is an incentive for innovation and creativity.

The regulation of patent property rights in Japan is an integral part of its intellectual property law system, designed to protect innovation and create a conducive environment for technological development. Japan has a strong legal framework for patents, regulated under the Japanese Patent Act. This law grants exclusive rights to inventors to exploit their inventions for a specific period, typically 20 years from the patent application date, in accordance with international standards set by the TRIPS Agreement (Dwi Ardiada et al., 2022).

Additionally, Japan has a specialised patent court to handle patent disputes, ensuring efficient and effective dispute resolution. This court has the authority to determine the validity of patents and award compensation to parties harmed by patent infringement (Khuchua, 2024). Such legal mechanisms provide security for patent holders and enhance investor confidence in Japan's patent system (Alhidayah et al., 2023).

In the context of patent protection, Japan also adopts a balanced approach between the interests of patent holders and the public. For example, in public health emergencies, the Japanese government has the right to use a patent without the patent holder's permission, a practice known as "government use." This demonstrates Japan's commitment to ensuring public access to essential innovations, particularly in the healthcare sector (Atmaja et al., 2021).

The approach to protecting intellectual property creations is changing and evolving depending on the philosophical concepts adopted, models of such protection, and political and legal doctrines. The theories of international protection of IPRs, especially the problem related to the so-called principle of territorial jurisdiction, are currently under development in Japan. This also causes the transactions between Japanese and foreign business entities to slow down. Many issues, e.g., IPRs violations via the Internet and satellite transmissions, remain unresolved in Japan (Węgrzak, 2022).

Patent property rights in France are integral to the legal system governing intellectual property protection. A patent grants the inventor exclusive rights to commercialise their invention for a specific period, typically 20 years, allowing them to receive returns on their investment in research and development (Setiyo et al., 2023).

The patent system in France is regulated by the Intellectual Property Code, which provides the legal framework for patent application, examination, and protection. The patent application process in France involves evaluating the novelty, inventive step, and industrial applicability of the proposed invention (Setiyo et al., 2023). Additionally, France adheres to international agreements such as the TRIPS Agreement, which aims to harmonise IPRs protection on a global scale (Sari, 2022).

The classification of patents as intangible movable property applies to patent rights granted by the state as exclusive rights for a specific period. This classification means patent rights are tied to ownership rather than the physical object. A patent typically applies to movable objects, processes, or products covered by patent protection. Since the rights are attached to the individual rather than the object, the patent holder retains the rights regardless

of the physical location of the patented item, as long as their name remains on the patent certificate.

The regulation in Japan states, "The common forms of security interests over intellectual property are pledges and security assignments (security assignments are probably more practical due to reasons relating to registration fees)" (Kawato, 2009).

A pledge over rights to patents, trademarks, copyrights and designs is created and perfected by a granting contract and registration of it in the relevant register (Article 98.1.3, Patent Act, Article 34.3, Trademark Act, Article 77.2, Copyright Act, and Article 35.3, Design Act).vThe right to obtain a patent, rights deriving from an application for trademark registration and rights deriving from a design registration cannot be pledged, as the grant of the pledge of such rights is restricted under the relevant statutes (Article 33.2, Patent Act, Article 13, Trademark Act, and Article 15, Design Act).

The Supreme Court's recent decision in Eldred v. Ashcroft illustrates the use of social contract theory in intellectual property law. In challenging the constitutionality of the Sonny Bono Copyright Term Extension Act, which added twenty years of protection to all copyrights, the petitioners argued that the retroactive extension of the copyright term violated the bargain that copyright protection was given in exchange for "Promoting progress," as articulated in Article I, Section 8, Clause 8 of the Constitution. The Court dismissed this argument by reading a term into the implicit contract.

The interpretation of patents as movable property varies across different regulations, adapting to the legal frameworks of each country. However, a comparison with various countries shows that patents are generally recognised as movable property. Nonetheless, some countries classify patents as immovable property, which will be discussed further.

**2. Patens as Immovable Objects or Deemed to be Immovable Objects**

Indonesia recognises patents only as rights to a patent, which are classified as intangible movable property and considered intangible assets. Under the Patent Law, patents are designated as objects of fiduciary security.

Immovable property is divided into two categories: immovable by nature and immovable by purpose. For example, machinery embedded in a factory is considered immovable by purpose, just like equipment used in the production process that is permanently installed in the ground. Meanwhile, immovable by nature refers to objects such as land or buildings.

Economic justifications of patent law focus on the exclusivity created by the patent grant. At the macro level, exclusivity allows the patent owner to generate extranormal profits that can be reinvested into research and development or used to recoup fixed research and development expenditures (Kaufer, 2012).

The exclusivity of patents provides economic benefits, and in certain cases, a patented process embedded in the ground can be considered an object of a patent classified as immovable property.

One of the essential aspects of technological development through patents is funding, and the uncertainty surrounding patents as assets can pose a challenge. The understanding that a patent is an intangible movable asset, evidenced by a patent certificate, does not necessarily provide sufficient security for lenders. The issues of patent duration and market economic value present high risks for the banking sector.

In some cases, patented processes are used directly by the patent holder for production, where the machinery involved is permanently affixed to the land, making it categorisable as immovable property.

In many jurisdictions, including in Europe, there is a significant interaction between patent and property laws. For example, in Europe, patent organisations such as the European Patent Office (EPO) play an important role in establishing standards for patents related to innovations in immovable property (Plomer, 2019).

One of the main challenges in patent protection for immovable property is the potential conflict between patent and land ownership rights. For instance, if a patent is granted for a new construction technology used in building development, how does that patent interact with pre-existing land ownership rights? This question often requires an in-depth analysis of both property law and patent law, as well as how these two legal systems can function harmoniously (Saly et al., 2019).

This raises the issue of whether objects on the land in question should be classified as part of a mortgage right guarantee or fiduciary security, depending on their classification. This represents an interesting aspect of patents as proprietary rights.

From a comprehensive perspective, patent rights over immovable property are an important part of the intellectual property legal system that supports innovation and investment in the property sector. With proper protection, inventors and developers can feel secure in investing in innovations, stimulating economic growth and enhancing infrastructure development.

The security rights granted over patents for immovable property provide essential legal protection for both parties. Creditors gain assurance that they can recover debts through the collateralised object, while debtors can leverage their patent rights to obtain financing necessary for further development (Arnanda et al., 2023). In this regard, it is crucial for debtors to ensure that all security agreements are registered according to applicable legal provisions to avoid legal problems in the future (Lestari et al., 2020). In providing credit, the bank must have confidence based on a profound analysis of the faith, ability, and capacity of debtors to pay the debt or return the financing as promised, and it is in line with Article 8 of the Banking Law (Hidayah et al., 2020).

Based on existing legal regulations, patent rights over immovable property can be used as collateral through fiduciary security or mortgage right guarantee. These guarantees provide significant legal protection for creditors and debtors, ensuring that the rights of both parties are recognised and safeguarded by law. Thus, using patent rights as collateral in financing can encourage innovation and investment in the immovable property sector, although there may be weaknesses or even a need for a specialised form of security specifically for intellectual property, particularly patents.

Patent valuation is the process of determining the economic value of a patent, which can be used as collateral in credit agreements. This is becoming increasingly relevant in the era of Industry 4.0, where technological innovation and intellectual property play a crucial role in economic growth. Legal certainty regarding patent valuation can help technology-based startups access the capital needed for business development (Muchtar et al., 2021). An accurate patent assessment not only helps obtain financing but also enhances a company's bargaining position in the market (Yuliandari, 2022).

The patent valuation process involves several steps, including market analysis, assessment of commercialisation potential, and risk evaluation. However, challenges in patent valuation include the lack of clear standards and consistent methodologies for assessment (Febriani & Sarjana, 2024). Therefore, it is essential to develop clearer guidelines and regulations on patent valuation to enhance the confidence of financial institutions in accepting patents as collateral (Febriani & Sarjana, 2024).

Although patents can be a significant source of value, their valuation as collateral faces various challenges. Creditors often struggle to assess the risks and benefits of accepting patents as collateral (Zhang et al., 2021). Factors such as technological novelty, market strength, and the commercialisation potential of the patent must be considered in the

valuation process. Therefore, it is crucial to develop methodologies that provide an accurate and objective assessment of patent value.

Patent valuation for collateral purposes is a crucial aspect that can enhance financing access for patent holders. With supportive regulations and a better understanding of the valuation process, patents can effectively secure the necessary capital for innovation and business development. Therefore, improving policies and practices in patent valuation is essential to support sustainable economic growth. Patent valuation is closely linked to the interpretation of patent property rights, as it influences valuation models and the methods of enforcing collateral.

Various approaches can be used to conduct patent valuation, including the cost-based approach, the market-based approach, and the income-based approach. The cost-based approach calculates the expenses incurred in developing the patent, while the market-based approach compares the patent with similar patent transactions in the market. On the other hand, the income-based approach estimates the patent's value based on its potential revenue generation (Bracht & Czarnitzki, 2022). The problem after valuation is legal certainty regarding the enforceability of collateral in cases where the debtor fails to meet their obligations. The execution of patent collateral remains a challenge, as patents, classified as intangible movable property, are still difficult to enforce as security.

## D. CONCLUSION

Patent rights, whether over movable or immovable property, are a crucial part of the intellectual property legal system that supports innovation and investment. With proper protection, inventors and developers can feel secure in investing in innovation, which can drive economic growth and improve infrastructure development. Patents over immovable property and patent rights as movable property can be used as collateral through fiduciary security or mortgage rights. Both types of security provide significant legal protection for creditors and debtors, ensuring that the rights of both parties are recognised and safeguarded by law. Thus, using patent rights as collateral in financing can promote innovation and investment for technological and industrial development. Patent valuation for collateral purposes is a key aspect that can enhance financing access for patent holders. With supportive regulations and a better understanding of the valuation process, patents can effectively secure the necessary capital for innovation and business development. Therefore, improving policies and practices in patent valuation is essential to support sustainable

economic growth. Patent valuation for collateral purposes is a complex yet essential process that allows patent holders to leverage their intellectual assets as security to obtain financing. With the right approach and accurate methodologies, patents can serve as an effective tool for fostering growth and innovation in business. Therefore, inventors need to understand the value of their patents and how best to utilise them in the context of financing.

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